Software Quality Preliminary Design Review (PDR) Checklist

Date(s) of Assessment: _____ Project: _____

Assessor(s): _____ Review Examined: _____

_____ _____

		Y , N, NA	F,O	Comments
REVIEW PREPARATION				
1	Have standards been identified to clearly define the review process?			
2	Were guidelines used to prepare for the review?			
3	Has the project submitted any request for deviations or waivers to the defined process?			
4	Have entrance and exit criteria been established for the review?			
5	Was an agenda prepared and distributed in advance of the review?			
6	Was the review package provided with ample time to review?			
7	Were the appropriate stakeholders in attendance?			
REVIEW CONTENT				
8	Were the goals of the review and any review prerequisites provided?			
9	Was the review process addressed, including the method for capturing Requests for Action (RFAs), risks, or issues?			
10	Was an overview of the software project/system provided (e.g., mission goals, key functionality, operational characteristics)?			
11	Was an Organization/Work Breakdown Structure (WBS) /Project relationship presented?			
12	Were external dependencies defined?			

Y=Yes, N=No, NA=Not Applicable, F=Finding, O=Observation

PDR OBJECTIVES				
13	Does the PDR reflect that all system requirements have been allocated? If so, are they complete, and flow-down to verify system performance?			
14	Does the PDR show that the design is verifiable and that all risks have been identified, characterized, and mitigation plans defined?			
15	Does the PDR include a complete and comprehensive presentation of the entire design? Was the presentation by means of block diagrams, flow diagrams, signals flow diagrams, interface circuits, s/w logic flow, and timing diagrams?			
16	Does the PDR show that the cost estimates and schedules indicate that the mission will be ready to launch and operate on time and within budget, and that control processes are adequate to ensure remaining within allocated resources?			
17	Does the PDR address a project planning and tracking system to ensure sufficient project monitoring (i.e., earned value or a comparable system)?			
REQUIREMENTS				
18	Were action items statused from the Software Requirements Review (SRR)?			
19	Did the review package include an overview of changes, additions, and/or deletions to the requirements since SRR?			
20	Did the review package provide an update on requirements for reuse of existing software?			
21	Were performance and/or quality requirements addressed?			

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22	Has safety-critical software been identified and uniquely defined as requirements?			
23	Were security requirements addressed?			
24	Was the software requirements traceability matrix updated to reflect requirement changes?			
25	Was the software requirements traceability matrix updated to map requirements to software subsystems?			
26	Were "To Be Determined" (TBD) requirements addressed?			
OPERATIONAL SCENARIOS				
27	Have operational scenarios been generated, one for each major product that is generated?			
28	Was the Fault Detection, Isolation, & Recovery (FDIR) strategy discussed?			
29	Were hazard reduction strategies discussed?			
HIGH –LEVEL DESIGN				
30	Was the system architecture presented?			
31	Were all interface descriptions presented (both internal and external)?			
32	Was the software architecture presented?			
33	Were software subsystems or major components defined?			
34	Were design drivers addressed?			
35	Were design alternatives and tradeoffs addressed?			
36	Were current design status and issues addressed?			
37	Were software size estimates provided?			
38	Were budget and staffing numbers provided?			

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TECHNICAL APPROACH				
39	Were resource estimates presented (e.g., Central Processing Unit (CPU), memory, databases, and data storage)?			
40	Was the error handling and recovery strategy presented?			
41	Has the design been elaborated in baseline diagrams to a sufficient level of detail?			
42	Were the following drivers specified: performance, reliability, hardware, memory considerations, and programming languages?			
43	Was the test strategy/plan discussed, including test environments, test data, and tools?			
44	Were simulators discussed?			
45	Were the results from the Preliminary Hazard Analysis (PHA), as they pertain to software, presented?			
46	Were Configuration Management (CM) and Product Assurance tools discussed to a sufficient level of detail?			
47	Is there evidence that software change control procedures are in place and being implemented as specified in the CM Plan?			
48	Is there evidence that software quality procedures are being implemented as specified in the SQ plan?			
49	Were development tools identified and discussed to a sufficient level of detail?			
50	Was measurement data collection and proposed metrics presented?			

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SOFTWARE DOCUMENTATION STATUS				
51	Does the review package address the status of the following documentation:			
51a	Software Management Plan			
51b	Software Requirements Document			
51c	Risk Management Plan			
51d	Software Test Plan			
51e	Interface Control Document(s)			
51f	Software Configuration Management Plan			
51g	Software Quality Assurance Plan			
51h	IV&V MOA and Project Plan			
51i	Current Development Schedule, with milestones, deliverables, and dependencies			
51j	Build/Release Plan and contents			
51k	Preliminary Design Document?			
POST REVIEW ACTIVITIES				
52	At the conclusion of the review is a technical understanding reached on the validity and degree of completeness of: ▪ System/subsystem specification? ▪ The engineering design/cost of the system?			
53	Did all designated stakeholders concur in the acceptability of the PDR?			
54	Is there a process in place for reviewing and tracking the closure of risks, issues, or RFAs?			
55	Are there any risks, issues, or request for actions (RFAs) that require follow-up?			
56	Have all artifacts been placed under formal configuration control (e.g., review packages)?			
57	Were Lessons Learned addressed and captured?			

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REFERENCE ITEMS/DOCUMENTS
ISD Checklist 580-CK-007-01, Contents of the Software Preliminary Design Review (PDR)
BK Draft PDR Guidelines, GSFC System Management Office, Design Review Guidelines - PDR

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COMMENTS PAGE _____ of _____

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